

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1-35. (Canceled)

36. (New) A method of selecting a route for communicating information in a communication network, the method comprising:

calculating a connectivity metric for a plurality of links defining each of a plurality of routes that connect a start node with an end node, each link of the plurality of links including a first node and a second node, wherein the first node is a first type of node selected from a first master node, a first slave node, and a first multiple network participant node, wherein the second node is a second type of node selected from a second master node, a second slave node, and a second multiple network participant node, and further wherein the calculated connectivity metric for a link of the plurality of links is determined based on the first type of node and the second type of node;

determining a total connectivity metric for each of the plurality of routes based on the calculated connectivity metric for the plurality of links defining each of the plurality of routes; and

selecting a route in a communication network for communicating information between the start node and the end node from the plurality of routes based on the determined total connectivity metric.

37. (New) The method of claim 36 wherein, if the first node is the first master node in a sub-network of the communication network and the second node is the second slave node in the sub-network, the connectivity metric is a number of slave nodes in the sub-network.

38. (New) The method of claim 36 wherein, if the second node is the second master node in a sub-network of the communication network and the first node is the first slave node in the sub-network, the connectivity metric is a number of slave nodes in the sub-network.

39. (New) The method of claim 36 wherein the first multiple network participant node comprises a first master multiple network participant node and a first slave multiple network participant node wherein the first master multiple network participant node participates in a sub-network of the communication network as a master node, and further wherein the first slave multiple network participant node does not participate in the communication network as a master node.

40. (New) The method of claim 39 wherein, if the first node is the first slave multiple network participant node between a first sub-network and a second sub-network and the second node is the second master node in the second sub-network, calculating the connectivity metric comprises solving  $P_i * MAX(M_i, M_j)$  where  $P_i$  is a number of master nodes that the first node connects to in the communication network,  $M_i$  is a first number of slave nodes in the first sub-network, and  $M_j$  is a second number of slave nodes in the second sub-network.

41. (New) The method of claim 39 wherein, if the first node is the first master multiple network participant node and the first node participates as a master node in a first sub-network and the second node is the second master node in a second sub-network, calculating the connectivity metric comprises solving  $MAX(M_k + 1, M_i)$  where  $M_k$  is a first number of slave nodes in the first sub-network, and  $M_i$  is a second number of slave nodes in the second sub-network.

42. (New) The method of claim 36 wherein determining the total connectivity metric of a route of the plurality of routes comprises identifying a maximum connectivity metric of the plurality of links defining the route.

43. (New) The method of claim 39 wherein, if the first node is the first slave multiple network participant node between a first sub-network and a second sub-network and the second node is the second master node in the second sub-network, calculating the connectivity metric comprises solving  $P_i * MAX(\frac{B_0}{B_i}, \frac{B_0}{B_j})$  where  $P_i$  is a number of master nodes that the first node connects to in the communication network,  $B_i$  is a first estimated

bandwidth of a master node of the first sub-network,  $B_j$  is a second estimated bandwidth of the second node, and  $B_0$  is a maximum bandwidth between the master node of the first sub-network and a slave node of the first sub-network.

44. (New) The method of claim 43 further comprising estimating the first estimated bandwidth and estimating the second estimated bandwidth.

45. (New) The method of claim 44 wherein estimating the first estimated bandwidth comprises use of a model of a network medium access control algorithm.

46. (New) The method of claim 44 wherein estimating the first estimated bandwidth comprises use of a model of a Bluetooth network medium access control algorithm.

47. (New) The method of claim 39 wherein, if the first node is the first master multiple network participant node and the first node participates as a master node in a first sub-network and the second node is the second master node in a second sub-network,

calculating the connectivity metric comprises solving  $\text{MAX}(\frac{B_0}{B_k} + 1, \frac{B_0}{B_i})$  where  $B_i$  is a first estimated bandwidth of the second node,  $B_k$  is a second estimated bandwidth of the first node, and  $B_0$  is a maximum bandwidth between the first node and a slave node of the first sub-network.

48. (New) The method of claim 36 further comprising communicating the calculated connectivity metric to a node of the communication network.

49. (New) The method of claim 48 wherein communicating the calculated connectivity metric comprises inserting the calculated connectivity metric into a routing protocol packet.

50. (New) The method of claim 49 wherein the calculated connectivity metric is inserted into the routing protocol packet in place of a hop number.

51. (New) A computer-readable medium including computer-readable instructions that, upon execution by a processor, cause the processor to select a route for communicating

information in a communication network, the instructions configured to cause a computing device to:

calculate a connectivity metric for a plurality of links defining each of a plurality of routes that connect a start node with an end node, each link of the plurality of links including a first node and a second node, wherein the first node is a first type of node selected from a first master node, a first slave node, and a first multiple network participant node, wherein the second node is a second type of node selected from a second master node, a second slave node, and a second multiple network participant node, and further wherein the calculated connectivity metric for a link of the plurality of links is determined based on the first type of node and the second type of node;

determine a total connectivity metric for each of the plurality of routes based on the calculated connectivity metric for the plurality of links defining each of the plurality of routes; and

select a route in a communication network for communicating information between the start node and the end node from the plurality of routes based on the determined total connectivity metric.

52. (New) The computer-readable medium of claim 51 wherein, if the first node is the first master node in a sub-network of the communication network and the second node is the second slave node in the sub-network, the connectivity metric is a number of slave nodes in the sub-network.

53. (New) The computer-readable medium of claim 51 wherein, if the second node is the second master node in a sub-network of the communication network and the first node is the first slave node in the sub-network, the connectivity metric is a number of slave nodes in the sub-network.

54. (New) The computer-readable medium of claim 51 wherein the first multiple network participant node comprises a first master multiple network participant node and a first slave multiple network participant node wherein the first master multiple network participant node participates in a sub-network of the communication network as a master node, and further wherein the first slave multiple network participant node does not participate in the communication network as a master node.

55. (New) The computer-readable medium of claim 54 wherein, if the first node is the first slave multiple network participant node between a first sub-network and a second sub-network and the second node is the second master node in the second sub-network, calculating the connectivity metric comprises solving  $P_i * MAX(M_i, M_j)$  where  $P_i$  is a number of master nodes that the first node connects to in the communication network,  $M_i$  is a first number of slave nodes in the first sub-network, and  $M_j$  is a second number of slave nodes in the second sub-network.

56. (New) The computer-readable medium of claim 54 wherein, if the first node is the first master multiple network participant node and the first node participates as a master node in a first sub-network and the second node is the second master node in a second sub-network, calculating the connectivity metric comprises solving  $MAX(M_k + 1, M_i)$  where  $M_k$  is a first number of slave nodes in the first sub-network, and  $M_i$  is a second number of slave nodes in the second sub-network.

57. (New) The computer-readable medium of claim 51 wherein determining the total connectivity metric of a route of the plurality of routes comprises identifying a maximum connectivity metric of the plurality of links defining the route.

58. (New) The computer-readable medium of claim 54 wherein, if the first node is the first slave multiple network participant node between a first sub-network and a second sub-network and the second node is the second master node in the second sub-network, calculating the connectivity metric comprises solving  $P_i * MAX(\frac{B_0}{B_i}, \frac{B_0}{B_j})$  where  $P_i$  is a number of master nodes that the first node connects to in the communication network,  $B_i$  is a first estimated bandwidth of a master node of the first sub-network,  $B_j$  is a second estimated bandwidth of the second node, and  $B_0$  is a maximum bandwidth between the master node of the first sub-network and a slave node of the first sub-network.

59. (New) A device for selecting a route for communicating information in a communication network, the device comprising:

a data processor, the data processor configured to

calculate a connectivity metric for a plurality of links defining each of a plurality of routes that connect a start node with an end node, each link of the plurality of links including a first node and a second node, wherein the first node is a first type of node selected from a first master node, a first slave node, and a first multiple network participant node, wherein the second node is a second type of node selected from a second master node, a second slave node, and a second multiple network participant node, and further wherein the calculated connectivity metric for a link of the plurality of links is determined based on the first type of node and the second type of node;

determine a total connectivity metric for each of the plurality of routes based on the calculated connectivity metric for the plurality of links defining each of the plurality of routes; and

select a route in a communication network for communicating information between the start node and the end node from the plurality of routes based on the determined total connectivity metric; and

a communication interface, the communication interface configured to communicate the information to a communication network based on the selected route.

60. (New) The device of claim 59 wherein, if the first node is the first master node in a sub-network of the communication network and the second node is the second slave node in the sub-network, the connectivity metric is a number of slave nodes in the sub-network.

61. (New) The device of claim 59 wherein the first multiple network participant node comprises a first master multiple network participant node and a first slave multiple network participant node wherein the first master multiple network participant node participates in a sub-network of the communication network as a master node, and further wherein the first slave multiple network participant node does not participate in the communication network as a master node.

62. (New) The device of claim 61 wherein, if the first node is the first slave multiple network participant node between a first sub-network and a second sub-network and

the second node is the second master node in the second sub-network, calculating the connectivity metric comprises solving  $P_i * MAX(M_i, M_j)$  where  $P_i$  is a number of master nodes that the first node connects to in the communication network,  $M_i$  is a first number of slave nodes in the first sub-network, and  $M_j$  is a second number of slave nodes in the second sub-network.

63. (New) The device of claim 61 wherein, if the first node is the first master multiple network participant node and the first node participates as a master node in a first sub-network and the second node is the second master node in a second sub-network, calculating the connectivity metric comprises solving  $MAX(M_k + 1, M_i)$  where  $M_k$  is a first number of slave nodes in the first sub-network, and  $M_i$  is a second number of slave nodes in the second sub-network.

64. (New) The device of claim 59 wherein determining the total connectivity metric of a route of the plurality of routes comprises identifying a maximum connectivity metric of the plurality of links defining the route.

65. (New) The device of claim 61 wherein, if the first node is the first slave multiple network participant node between a first sub-network and a second sub-network and the second node is the second master node in the second sub-network, calculating the connectivity metric comprises solving  $P_i * MAX(\frac{B_0}{B_i}, \frac{B_0}{B_j})$  where  $P_i$  is a number of master nodes that the first node connects to in the communication network,  $B_i$  is a first estimated bandwidth of a master node of the first sub-network,  $B_j$  is a second estimated bandwidth of the second node, and  $B_0$  is a maximum bandwidth between the master node of the first sub-network and a slave node of the first sub-network.